

07/25/01

31017 U.S. PTO

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Patent and Trademark Office U.S. DEPARTMENT OF COMMERCEUTILITY
PATENT APPLICATION
TRANSMITTAL

Attorney Docket No. HER-1

First Inventor or Application Identifier A. Papathanasiou

Title Adaptive Filter for Communication System

(Only for new nonprovisional applications under 37 C.F.R. § 1.53(b))

Express Mail Label No.

APPLICATION ELEMENTS

See MPEP chapter 600 concerning utility patent application contents

1. ☒ Fee Transmittal Form (e.g., PTO/SB/17)
(Submit an original and a duplicate for fee processing)
2. ☒ Specification (Total Pages 12)
(preferred arrangement set forth below)
 - Descriptive title of the invention
 - Cross References to Related Applications
 - Statement Regarding Fed sponsored R & D
 - Reference to Microfiche Appendix
 - Background of the Invention
 - Brief Summary of the Invention
 - Brief Description of the Drawings (if filed)
 - Detailed Description
 - Claim(s)
 - Abstract of the Disclosure
3. ☒ Drawing(s) (35 U.S.C. 113) (Total Sheets 12)
4. Oath or Declaration (Total Pages 2)
 - a. ☒ Newly executed (original or copy)
 - b. ☐ Copy from a prior application (37 C.F.R. § 1.63(d))
(for continuation/divisional with Box 16 completed)
 - i. ☐ DELETION OF INVENTOR(S)
Signed statement attached deleting inventor(s) named in the prior application, see 37 C.F.R. §§ 1.63(d)(2) and 1.33(b).

*NOTE FOR ITEMS 1 & 13: IN ORDER TO BE ENTITLED TO PAY SMALL ENTITY FEES, A SMALL ENTITY STATEMENT IS REQUIRED (37 C.F.R. § 1.37), EXCEPT IF ONE FILED IN A PRIOR APPLICATION IS RELIED UPON (37 C.F.R. § 1.38).

ADDRESS TO:

Assistant Commissioner for Patents
Box Patent Application
Washington, DC 20231

5. ☐ Microfiche Computer Program (Appendix)
6. Nucleotide and/or Amino Acid Sequence Submission
(if applicable, all necessary)
 - a. ☐ Computer Readable Copy
 - b. ☐ Paper Copy (identical to computer copy)
 - c. ☐ Statement verifying identity of above copies

ACCOMPANYING APPLICATION PARTS

7. ☒ Assignment Papers (cover sheet & document(s))
8. ☒ 37 C.F.R. § 3.73(b) Statement (when there is an assignee) ☒ Power of Attorney
9. ☐ English Translation Document (if applicable)
10. ☐ Information Disclosure Statement (IDS)/PTO-1449 ☐ Copies of IDS Citations
11. ☐ Preliminary Amendment
12. ☒ Return Receipt Postcard (MPEP 503)
(Should be specifically itemized)
13. ☒ Small Entity Statement filed in prior application, (PTO/SB-09-12) Status still proper and desired
14. ☐ Certified Copy of Priority Document(s)
(if foreign priority is claimed)
15. ☒ Other: 6 references

16. If a CONTINUING APPLICATION, check appropriate box, and supply the requisite information below and in a preliminary amendment:
- Continuation ☐ Divisional ☐ Continuation-in-part (CIP) ☐ of prior application No. _____
- Prior application information: Examiner _____ Group / Art Unit: _____

For CONTINUATION or DIVISIONAL APPS only: The entire disclosure of the prior application, from which an oath or declaration is supplied under Box 4b, is considered a part of the disclosure of the accompanying continuation or divisional application and is hereby incorporated by reference. The incorporation can only be relied upon when a portion has been inadvertently omitted from the submitted application parts.

17. CORRESPONDENCE ADDRESS

☐ Customer Number or Bar Code Label

(Insert Customer No. or Attach Bar code label here)

or ☒ Correspondence address below

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Signature

Hung Chang Lin

Date July 24 2001

Burden Hour Statement: This form is estimated to take 0.2 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Box Patent Application, Washington, DC 20231.

0002/PTO
 Rev. 10/95

U.S. Department of Commerce
 Patent and Trademark Office

FEE TRANSMITTAL

TOTAL AMOUNT OF PAYMENT (\$) 395.00

Complete If Known

Application Number	
Filing Date	
First Named Inventor	A. Papathanasiou
Group Art Unit	
Examiner Name	
Attorney Contact Number	HER-1

METHOD OF PAYMENT (check one)

1. ☐ The Commissioner is hereby authorized to charge indicated fees and credit any over payments to:

Deposit Account Number

Deposit Account Name

☐ Charge Any Additional Fee Acquired Under 37 CFR 1.16 and 1.17 ☐ Charge the Issue Fee Set in 37 CFR 1.18 at the Meeting of the Notice of Allowance, 37 CFR 1.311(b)

2. ☒ Payment Enclosed:

☒ Check ☐ Money Order ☐ Other

FEE CALCULATION (fees effective 10/01/95)

FILING FEE

Large Entry Fee Code (\$)	Small Entry Fee Code (\$)	Fee Description	Fee Paid
101 750	201 375	Utility filing fee	355
106 310	206 155	Design filing fee	
107 510	207 255	Plant filing fee	
108 750	208 375	Reissue filing fee	
114 150	214 75	Provisional filing fee	

SUBTOTAL (1) (\$) 355

CLAIMS

Total Claims	Excess	Fee from below	Fee Paid
19	-20 =	X	
Independent Claims	-3 =	X	
Multiple Dependent Claims		X	

Large Entry Fee Code (\$)	Small Entry Fee Code (\$)	Fee Description
103 22	203 11	Claims in excess of 20
102 78	202 39	Independent claims in excess of 3
104 250	204 125	Multiple dependent claim
109 78	209 39	Reissue independent claims over original patent
110 22	210 11	Reissue claims in excess of 20 and over original patent

SUBTOTAL (2) (\$)

FEE CALCULATION (continued)

3. ADDITIONAL FEES

Large Entry Fee Code (\$)	Small Entry Fee Code (\$)	Fee Description	Fee Paid
105 130	205 65	Surcharge - late filing fee or oath	
127 50	227 25	Surcharge - late provisional filing fee or cover sheet	
139 130	139 130	Non-English specification	
147 2,390	147 2,390	For filing a request for reconsideration	
112 870	112 870	Requesting publication of SIR prior to Examiner action	
113 1,740	113 1,740	Requesting publication of SIR after Examiner action	
115 110	215 55	Extension for response within first month	
116 380	216 190	Extension for response within second month	
117 900	217 450	Extension for response within third month	
118 1,400	218 700	Extension for response within fourth month	
119 290	219 145	Notice of Appeal	
120 290	220 145	Filing a brief in support of an appeal	
121 250	221 125	Request for oral hearing	
138 1,430	138 1,430	Petition to institute a public use proceeding	
140 110	240 55	Petition to revive unvoluntarily abandoned application	
141 1,250	241 625	Petition to revive unintentionally abandoned application	
142 1,250	242 625	Utility issue fee (or reissue)	
143 430	243 215	Design issue fee	
144 630	244 315	Plant issue fee	
122 130	122 130	Petitions to the Commissioner	
123 50	123 50	Petitions related to provisional applications	
126 220	126 220	Submission of Information Disclosure Sheet	
581 40	581 40	Recording each patent assignment per property (times number of properties)	40
146 750	246 375	Filing a submission after final rejection (37 CFR 1.129(a))	
149 750	249 375	For each additional invention to be examined (37 CFR 1.129(b))	
Other fee (specify) _____			
Other fee (specify) _____			

* Reduced by Basic Filing Fee Paid

SUBTOTAL (3) (\$) 40

SUBMITTED BY

Typed or Printed Name	Hung Chang LIN		Complete If applicable	
Signature	<i>Hung Chang Lin</i>	Date	7/24/01	Reg. Number
				28,739
				Deposit Account User ID

References

- [1] S. Haykin, *Adaptive filter theory*, Prentice Hall, Englewood Cliffs, 2nd Ed., 1991.
- [2] E. Frantzeskakis and K.J.R. Liu, "A Class of Square Root and Division Free Algorithms and Architectures for QRD-Based Adaptive Signal Processing", *IEEE Trans. on Signal Processing*, vol 42, no 9, pp.2455-2469, September 1994.
- [3] K.J.R. Liu, S.F. Hsieh, and K. Yao, "Systolic Block Householder Transformation for RLS Algorithm with Two-Level Pipelined Implementation", *IEEE Trans. on Signal Processing*, Vol 40, No 4, pp.946-958, April 1992.
- [4] A. Lee, "Centrohermitian and skew-centrohermitian matrices", *Linear Algebra and its Applications*, vol. 29, pp. 205-210, 1980.
- [5] S.L. Marple, Jr, *Digital spectral analysis with applications*, Prentice-Hall, Englewood Cliffs, New Jersey, 1987
- [6] A. Klein and P.W. Baier, "Linear unbiased data estimation in mobile radio systems applying CDMA", *IEEE Journal on Selected Areas in Communications*, vol. 11, pp. 1058-1066, 1993.

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